

The invention claimed

1. Method for EMI shielding a portable electronic device characterized by insert molding an electrically conductive fiber mesh net into a wall of said device to shield first electronic circuitry contained within said device.

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2. Method for EMI shielding a portable electronic device as set forth in claim 1 further characterized in that at least a portion of said fiber mesh net is brought into direct continuous physical and electrical contact with a ground plane carried on a circuit board substrate within said electronic device.

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3. Method for EMI shielding a portable electronic device as set forth in claim 1 further characterized in that said fiber mesh net is laminated to a polymer film sheet.

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4. Method for EMI shielding a portable electronic device as set forth in claim 3 further characterized in that said polymer film sheet has an electrically non-conductive surface opposite said fiber mesh net surface for carrying second electronic circuitry, said fiber mesh net having at least a portion extending to the non-conductive side for mechanical and electrical coupling to said second electronic circuitry.

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5. Method for EMI shielding a portable electronic device as set forth in claim 4 wherein said fiber mesh net is further characterized by part of said fiber mesh net being a mixture of conductive and

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non-conductive fibers, at least one of said conductive fibers carrying electrical signals from said first electronic circuitry on said printed circuit board to said second electronic circuitry.

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6. Method for EMI shielding a portable electronic device characterized by insert molding an electrically conductive fiber mesh net into a wall surface defining an interior cavity surrounding first electronic circuitry contained within said device further characterized by providing a bobbinet woven fiber mesh net.

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7. Method for EMI shielding a portable electronic device as set forth in claim 6 further characterized by providing a fiber mesh net comprising a textile structure including warp knitted, woven, Raschel, braided, nonwoven and spun multidirectional textile structures.

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8. EMI shielding apparatus for a portable electronic device characterized by an electrically conductive fiber mesh net insert molded into wall surfaces defining an interior cavity of said electronic device, said cavity having a size, shape and contour to surround first electronic circuitry within said electronic device.

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9. EMI shielding apparatus as set forth in claim 8 further characterized in that at least a portion of said insert molded electrically conductive fiber mesh net is in a substantially continuous physical and electrical contact with a ground plane carried on a circuit board substrate within said electrical device.

10. EMI shielding apparatus as set forth in claim 9 further characterized in that said fiber mesh net is a bobbinet woven fiber mesh net.

15. EMI shielding apparatus as set forth in claim 9 further characterized in that said fiber mesh net is a bobbinet woven 3-directional fiber mesh net.

20. EMI shielding apparatus as set forth in claim 8 further characterized in that said fiber mesh net comprises a textile structure mesh net including at least warp knitted, woven, Raschel, braided, nonwoven and spun multidirectional fiber mesh nets.

25. EMI shielding apparatus as set forth in claim 8 further characterized in that said fiber mesh net is laminated to a polymer film sheet.

30. EMI shielding apparatus as set forth in claim 13 further characterized in that said polymer film sheet has an electrically non-conductive surface opposite said fiber mesh net surface for carrying second electronic circuitry, and said fiber mesh net having at least a portion electrically coupled

to said second electronic circuitry and to first electronic circuitry within said electrical device for passing electronic signals between said first and second electronic circuitry.

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15. EMI shielding apparatus as set forth in claim 11 further characterized in that said bobbinet woven 3-directional fiber mesh net is characterized by 6 to 34 openings per inch and a specific weight of 10 to 50 grams per square meter.

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16. EMI shielding apparatus as set forth in claim 8 further characterized in that said fiber mesh net is preformed to the size, shape and contour of 15 said interior cavity for insert molding therein.

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17. EMI shielding apparatus as set forth in claim 14 further characterized in that said fiber mesh net is inserted molded into a cover portion of said 20 electrical device such that said second electronic circuitry is electronically coupled to other electronic circuitry carried on the exterior of said cover and arranged for functional co-action with said second electrical circuitry to pass 25 electrical signals between said other and said second circuitry.

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